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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,088	10/29/2003	Sheau-Hwa Ma	FA1062USNA	6645

23906 7590 10/23/2006

E I DU PONT DE NEMOURS AND COMPANY  
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WILMINGTON, DE 19805

EXAMINER
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SASTRI, SATYA B

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/696,088

Applicant(s)

MA ET AL.

Examiner

Satya B. Sastri

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is in response to amendment filed on August 17, 2006. *Claims 1-23, 25-27* are now pending in the application.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 17, 2006 has been entered.
3. The amendment and arguments filed on August 17, 2006 have been fully considered with the following results: The rejections over Barsotti et al. and Berderke et al. are withdrawn. Briggs et al. is deemed prior art and new grounds of rejection over Briggs et al. are presented in this office action. Furthermore, the provisional rejection of *claims 25, 26* under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 20 of copending Application No. 10/696,093 (published as US 2004/0115357 A1) is sustained (as presented in the office action dated October 7, 2005). If this double-patenting rejection is the only rejection remaining in this application and if there is a provisional obviousness-type double patenting rejection in the copending application, per USPTO practice, the examiner will withdraw the rejection.

### ***Claim Objections***

4. ***Claim 17*** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Independent ***claim 1*** includes the transitional phrase “consisting of” for the crosslinkable component and thus eliminates additional crosslinkable components in the composition as recited in ***claim 17***. In this office action, the instant claim is examined as if the crosslinkable component consists of the acrylic polymer and one or more reactive oligomers.

***Claims 16 and 18*** are objected to because the scope of the claims is unclear. The acrylic polymers disclosed on page 9 may include functional groups that can react with the crosslinking agent and thus, constitute crosslinkable acrylic polymer. Similarly, the scope of 18 is not clear because the specification does not describe what these modifying resins are.

### ***Previously Cited Statutes***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. ***Claims 1-16, 18, 19, 21-27*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Briggs et al. (US 5,360,644) in view of Rheology Modifiers Handbook, Practical Use and application, by Braun, D.B and Rosen, M.R., Pub. year 2000, Pages 167-173.

Briggs et al. disclose a coated article comprising a substrate having thereon, a color-plus-clear coating wherein the color layer is derived from a polymer containing active hydrogen groups thereon, an aminoplast curing agent, an acid cure catalyst and an amine (abstract). The acrylic polymer may be derived from methyl methacrylate, methyl acrylate, (meth)acrylic acid, butyl methacrylate etc. An active hydrogen-containing group may be derived from hydroxyl functional acrylic monomers (column 2, lines 6-64). The coating compositions include aminoplast resin and cure catalysts (column 3, lines 30-55). The compositions may also include one or more organic or inorganic pigments, metallic and flake materials and other materials known in the art (column 4, lines 18-28).

With regard to the amount of fumed silica, the prior art further discloses that the compositions may include small amounts of rheology control agents, such as acrylic microgels, fumed silica, cellulose etc in amounts less than 10% by wt., based on the total solid wt. of reactants, usually not exceeding 1 or 2% by wt. (column 7, lines 29-38). Working example in column 8 for the preparation of uncatalyzed basecoat composition discloses a crosslinkable component consisting of an acrylic resin with 7% by wt., based on the total wt. of acid functional acrylic polymer, of acrylic acid, melamine resin and fumed silica dispersed in acrylic resin. Claims 16, 18 read on the working example in column 9 that discloses two different acid containing acrylic polymers with fumed silica dispersion and melamine crosslinking agent. The solvent in the composition may range from 0.01 to 99 wt.%. The compositions may be used for topcoats on automobile surfaces and crosslinked at temperatures of 60 to 177°C (column 7, lines 6-10, 46-47, 63-67). The compositions in column 8 are further blended with an acid catalyst to 55% non-volatile content (lines 39-40).

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The difference between the prior art and the instant invention is that the prior art does not teach hydrophobic amorphous silica in the coating compositions.

Secondary reference discloses the use of amorphous silica as rheology modifier in the coating compositions. Additionally, the reference also teaches that fumed silica may be treated with silanol coupling agents so as obtain a hydrophobic silica (page 167, last paragraph). Such modifications would be desirable from the standpoint of improving the compatibility of the rheology modifier with the polymeric component. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include hydrophobic fumed silica in the coating compositions or Briggs et al. and thereby obtain the instant invention.

With regard to the molecular weight and glass transition temperature limitations of the acrylic copolymer, given that the claimed ranges are broad, it is the examiner's position that the prior art copolymers include the ranges as recited instant claims, absent evidence of unexpected results for the instantly claimed range.

7. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Briggs et al. (US 5,360,644) in view of Crawford (US 5,612,415) and Rheology Modifiers Handbook, Practical Use and application, by Braun, D.B and Rosen, M.R., Pub. year 2000, Pages 167-173.

Prior art to Briggs et al. is elaborated above in paragraphs 7, and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the coating composition formulated as a two-pack composition.

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The prior art discloses the use of an acrylic binder with reactive function groups that can be utilized in a crosslinking reaction with melamine crosslinking agent. With regard to formulating the composition as a two-pack composition, it is the examiner's position crosslinkable compositions may be formulated as one-pack or two-pack compositions depending upon the reactivity of the individual components and that that keeping two reactive components in a spatially separate environment is well within the capabilities of one of ordinary skill in the art. For instance, the secondary reference discloses that automotive coatings may be one-component or two-component depending upon the reactivity of the components (column 1, lines 50-57). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to formulate the prior art composition to Briggs et al. or Bederke et al. as a two pack compositions and thereby obtain the instant invention.

8. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Briggs et al. (US 5,360,644) in view of in view of Barsotti et al. (US 6,221,494 B1) and Rhoelogy Modifiers Handbook, Practical Use and application, by Braun, D.B and Rosen, M.R., Pub. Year 2000, Pages 167-173.

Prior art to Briggs et al. is elaborated above in paragraph 6 above and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the use of reactive oligomers in the coating composition.

Secondary reference to Barsotti et al. discloses reactive oligomers suitable for use in a two pack curable coating composition. The hydroxyl-containing oligomeric component may be

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added to an acrylic copolymer derived from styrene, alkyl (meth)acrylate, ethylenically unsaturated acids etc. (column 4, lines 49-67, column 5). The reactive oligomers are suitable for use in automotive paint compositions and provide for low VOC and fast cure rates under ambient conditions (column 1, lines 30-51). In light of such benefits, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include reactive oligomers in the coating compositions disclosed by Barsotti et al. or Briggs et al. or Bederke et al. and thereby obtain the instant invention.

### *Response to Arguments*

9. Prior art to Briggs et al. is applicable because the composition as recited in instant claim 1 reads on the basecoat composition disclosed in column 8, lines 10-30. The prior art compositions 1-4 in table 1 consist of a crosslinkable acrylic copolymer, amorphous fumed silica and crosslinking agent.

### *Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272 1114.



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The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SATYA SASTRI

October 18, 2006



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